

NASA TECH BRIEF



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Stereo Photomacrography System

The problem:

To provide sharply focused and correctly exposed stereo pairs of photographs through a stereomicroscope. Current art suffers from the fact that the stereomicroscope is visually focused and subject to variations dependent on adaptability of the eye, while exposures are suggested in broad general terms. Focus and exposure in this mode are by trial and error.

The solution:

A newly developed system that uses components of the old system but incorporates a sharp focusing system new to stereo photomacrography and includes an improved photometer.

The sharp focusing system includes the following items that are departures from and improvements to prior art: a medium power focusing microscope, a finely ruled reticule, and a specially designed specimen stand. The focusing microscope provides fairly large coverage combined with a very limited depth of field and is mounted on a triaxial rack and pinion mechanism that permits motion perpendicular to the camera film plane and adjustable within the two axes of that plane. The finely ruled reticule establishes the film plane position within the camera to a fine,

discrete tolerance. The specially designed specimen stand includes a positive micrometer motion control and a dial indicator that facilitates precise repositioning of the specimen for each magnification setting of the microscope.

Notes:

1. Use of the sensitive photoconductive cell and photometer with a small photosensitive cell area permits the operator to examine various parts of the specimen image to aid in exposure and focusing decisions.
2. Inquiries concerning this invention may be directed to:

Technology Utilization Officer
Langley Research Center
Langley Station
Hampton, Virginia 23365
Reference: B68-10141

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

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